# ISO TC184/SC4/WG10 N44

**Date: February 2, 1996** **Supersedes SC4/WG N**

**PRODUCT DATA REPRESENTATION AND EXCHANGE**

**Part:** n/a **Title: WG10: Minutes of the Dallas meeting (January 1996)**

**Purpose of this document as it relates to the target document is:**

Primary content
Issue discussion
Alternate proposal
Partial content

Current status: draft
Version 1


**ABSTRACT:**

.Draft minutes of the ISO TC184/SC4/WG10 meetings held in Dallas, TX – January 1996



**KEYWORDS**

ISO TC184/SC4/WG10
Minutes
Dallas
January 1996


**Document status/dates** (dd/mm/yy)

| **Part Documents** | | **Other SC4 Documents** | |
|---|---|---|---|
| _____ | Working draft | _____ | Working |
| _____ | Project draft | _____ | Released |
| _____ | Released draft | _____ | Confirmed |
| _____ | Technically complete | _____ | Released |
| _____ | Editorially complete | | |
| _____ | ISO Committee Draft | | |


| | | | |
|---|---|---|---|
| **Editor:** | Julian Fowler | **Alternate:** | |
| **Address:** | PDT Solutions<br>Downs Court, 29 The Downs<br>Altrincham<br>WA14 2QD, UK | **Address:** | |
| **Telephone:** | 44 1943 831688 | **Telephone:** | |
| **Fax:** | 44 1943 831688 | **Fax:** | |
| **E-mail:** | jfowler@pdtsolutions.co.uk | **E-mail:** | |


**Comments to Reader:**

**This document contains the draft minutes of the ISO TC184/SC4/WG10 meetings held in Dallas.**

# Contents

# WG10: Minutes of the Dallas meeting (January 1996)

## 1. Introduction

WG10 held two plenary sessions on Saturday, January 20 and Thursday, January 25. WG10/P1 "Methods Documentation" met on Tuesday, January 23. Joint meetings were held with WG2 (Wednesday, January 24), WG3/T14 Product Documentation (Wednesday, January 24) and WG3 (Thursday, January 25).

WG10 meetings were well attended, with 12 of the 16 nominated working group members attending at least one session. However, it was noted that some WG members were finding it difficult to make substantive contribution to the work, and that some "observers" were providing vital input to the group. It was agreed that the Convener should discuss with the Secretariat mechanisms for change and update to the membership of WG10.

## 2. Attendees

| To be added. |
|---|

## 3. Plenary meeting #1: AP Interoperability

The primary topic of the first WG10 plenary session was that of "AP Interoperability". Presentations were made by:

- PDES, Inc. [[4],[5]];
- ProSTEP [[6]];
- The European Marine STEP Association (EMSA) [[7],[9]]

of progress towards understanding of solutions for interoperability of applications based on multiple STEP APs. The use of the MARITIME "building block" approach [[8]] across the shipbuilding APs was welcomed as an approach to the development of related APs in a single industry. It was noted that the ARM-level integration achieved using the building block approach should not be lost in the interpretation process.

It was confirmed that interoperability can only be achieved by design, and that the current STEP architecture and methodology provides a substantial part of the required solution. It was also noted, however, there are a number of potential enhancements to the STEP methodology and models that may improve the level of confidence of both users and vendors with respect to interoperability.

Based on the presentations given, and previous discussions within WG10, it was agreed that "interoperability by design" is currently sought within STEP by two approaches:

- "bottom up", by assembling a suite of existing or in-development APs (e.g., PDES, Inc. electro-mechanical suite);
- "top down", by designing a suite of related APs[1] (e.g., shipbuilding suite of APs, ProSTEP AP214/AP212).

A task group was created to develop an "AP Interoperability Guidelines" document based on the following outline:

1. Problem statement
   - — Industry requirements
   - — Current issues
2. Planning for interoperability
   - — Assembly of suites of APs
   - — Design of suites of APs
3. Designing for interoperability
   - — Harmonisation of activity and reference models
   - — STEP IR and AIC design principles
   - — STEP AIM development principles and practices
   - — Enabling tools
4. Implementing for interoperability
   - — Implementation architecture(s)
   - — Interoperability between part 21 based implementations
   - — Interoperability between part 22 based implementations
   - — Interoperability testing
5. Technical recommendations
   - — Changes and enhancements to STEP methodology
   - — Changes and enhancements to STEP models
   - — Implementation approaches

[1] or a single, large AP with multiple conformance classes such as AP214.

The members of this task group are:

- Julian Fowler
- Kevin Freund
- Dave Price
- Phil Kennicott
- Norbert Lotter
- Bernd Wenzel
- Martin Holland
- Felix Metzger
- Jochen Haenish

It is planned that this group will work together to produce a first complete draft for discussion at the Kobe meeting. A workshop was tentatively scheduled for April 22-24 (in Europe).

# 4. Plenary meeting #2: SC4 architecture

The main topic of the second WG10 plenary meeting was that of architecture(s) for the SC4 standards. Document N31 [[1]] had been reviewed following the Grenoble meeting, and the following resolution considered by e-mail vote:

> Resolution Grenoble #1
>
> *WG10 decides to use document WG10 N31 as the start point for the accumulated position of WG10 on requirements and improvements for architecture and methodology for SC4 standards. This will be achieved by including issues and resolutions within succeeding versions of the document.*

The voting on this resolution was as follows:

| YES: | 5 | NO: | 7 | Did not vote: | 4 |
|---|---|---|---|---|---|

The resolution was therefore not approved. It was agreed, however, that N31 does provide *one* basis for the future architecture(s) for SC4, alongside other documents such as Part 13. An updated version of N31 [[2]] was distributed together with an issues log [[3]]. A number of these issues were discussed, resulting in the following conclusions:

Consideration of an impl ementation architecture has to be included[2].

The architectural elements of STEP, P-LIB and MANDATE have to be mapped to the architecture proposed in N42.

The impact of the Parametrics work item has to be considered.

N42 and N43 will be made available for wider review via SOLIS, and a further revision made available prior to the Kobe meeting.[3]

[2] Compare figure 1 of N42 with figure 1 of Part 13 (N40), and corresponding diagrams in Parts 1 and 10 of ISO 13584.

[3] Subsequent off-line discussions also identified the need for a "road map" document showing an incremental, evolutionary approach to improvement of the current SC4 architectures to enable "AP Interoperability", co-operative use of STEP and P-LIB, integration across the domain of industrial data, links to EDI and publications, etc.

# 5. WG10/P1 “Methods Documentation”

## 5.1 Attendees

| | |
|---|---|
| Phil Kennicott | USA |
| Jon Owen | UK |
| Dave Sanford | USA |
| Julian Fowler | UK |
| Masao Ando | Japan |
| Gunter Sauter | Germany |
| Bill Burkett | USA |

## 5.2 Review of ISO WD 10303-13

WG10/P1 met for a full day to review the latest draft of Part 13 [[10]] and issues raised against it [[11],[12],[13]].[4] Discussions focused on the structure of the document as determined by the content of Figure 1 (architecture overview) and of clause 5 (Fundamental concepts and assumptions). Substantial progress was made in the necessary restructuring. Work will be undertaken between now and the Kobe meeting in order to revise the document and produce an updated version that resolves outstanding issues and that can be balloted by SC4.

In response to discussions at the earlier WG10 plenary meeting, WG10/P1 considered whether the Part 13 document should be targeted towards a standard or a type II technical report. Many reviewers had commented that the “standards” language prevented many of the intended purposes of the document, particularly in forming a baseline for future extension and improvement. It was agreed that WG10/P1 should maintain the position taken at previous meetings to produce a *useful* document and to defer final decisions regarding IS or TR. One possibility identified was to split the current content of the Part 13 document as follows:

- key definitions and concepts moved to Part 1;
- a reduced Part 13 document containing those elements on which consensus can be reached and whose contents are appropriate for standardisation;
- a companion Technical Report containing the remainder of the current document’s scope.

The Part 13 project leader will seek clarification of the ISO rules and procedures from the SC4 Secretariat.

[4] Detailed notes of this meeting were taken by Dave Sanford. These have been used as the basis of this summary, and used by the Part 13 project team in updating the document and the issues log.

# 6. Joint meeting with WG2 “Parts libraries”

WG10 met jointly with WG2 “Parts Libraries” on the morning of Wednesday, January 24.

## 6.1 Attendees

The meeting concentrated on three aspects of the co-operative use of STEP and P-LIB:

- use of the expression_schema from P-LIB to satisfy STEP requirements;
- properties defined in ISO 13584-42 and in ISO 10303-41;
- insertion in a product data model (STEP) of library parts and views generated by or referenced from a library (P-LIB).

Guy Pierra (deputy convener, WG2) presented the results of work undertaken since the Grenoble meeting, based on the assumption that a “Qualified External Resource” could be created to allow the use by STEP Application Protocols of non-integrated EXPRESS schemas as if they are part of the STEP integrated resources. Although WG4 and some members of WG10 have severe reservations about the feasibility of this approach, is was agreed that three task groups should be established to assess QER-based solutions to each of these requirements. The groups will be led by Julian Fowler, Juergen Mohrmann, and Matthew West respectively. The first two groups will operate by e-mail only. The third group will initiate its task at an EPISTLE meeting to be held in London on February 12-13.

# 7. *Ad hoc* meeting: recommendations for an “Integrated Resources” working group

An *ad hoc* meeting convened by WG10 on Monday, January 22 considered the PPC’s recommendation of the creation of a new working group to be responsible for the “common resources” of SC4. The following points were noted during the meeting.[5]

1. It is desirable that there should be a single working group with responsibility for common resource models for all the SC4 standards, e.g., P-LIB and MANDATE as well as STEP. However, until WG10 determines the nature of the SC4 architecture(s) that would support the development and use of such resources, it is not feasible to create a group with this broad scope now.

2. There is a general issue regarding the capability of SC4 to maintain any of its standards once they have been published as International Standards.

3. There is a need for a group within SC4 to be responsible for the Integrated Resources of ISO 10303. This group should be tasked with:

   — the completion of all IR parts currently in development,

   — developing and implementing changes or extensions to IR parts resulting from SEDS issues,

[5] This summary of the meeting was made available to the PPC as WG10 N49.

— development of new IRs, and

— maintenance of the IRs as the consistent core data model for STEP.

4. Such a group can only be successful if adequate resources are available to support its work. It is anticipated that AP projects will make *ad hoc* contributions to the group based on needs for changes or extensions to the IRs. However, SC4 needs to establish and disseminate a strong economic motivation for adequate support of the group.

5. It is unclear from the description of the "common resources" group described in the PPC report to the Grenoble SC4 meeting whether it is intended that the development and maintenance of STEP Application Interpreted Construct parts should be included within its scope. WG4 representatives stated their position that AIC development should be the responsibility of AP teams with the support of the Quality Committee. Other participants stated a desire for consistent maintenance of IRs and AICs as a single group.

The meetings conclusions and recommendations to the PPC are that:

1. A new Working Group should be established with responsibility for the STEP Integrated Resources. This Working Group may be expanded in scope to cover other "Common Resources" of SC4 in the future.

2. The developmental aspects of the work of WG4/P2 Resource Integration should be transferred to this Working Group. (The review and approval functions of WG4/P2 are assumed to become part of the Quality Committee).

3. All projects currently within WG3 responsible for the development of STEP Integrated Resource parts should be transferred to this Working Group.

4. The PPC should provide guidance and direction to the SC4 members and projects in order to ensure adequate funding and other support for the members of this Working Group.

5. The PPC should clarify the roles of the Quality Committee and AP Teams with respect to the development of AICs, such that a decision may be made regarding a possible expansion of the scope of the proposed Working Group to cover AIC development.

6. Transition to the new Working Group should be managed such that:

— the schedules of projects developing IR parts are not affected;

— support to the processing and resolution of SEDS issues is made more effective;

— there is increased responsiveness to issues and requirements from AP projects.

# 8. Joint meeting with WG3/T14 Product Documentation

Hugh Tucker, chair of the WG3 Product Documentation team gave a walk-through of T14's views of the relationship between STEP and SGML. Opportunities for the integration of SGML capabilities into STEP, based on proposals originated by the SwedCALS project were discussed. Copies of the WG3/T14 "white paper" on STEP-SGML integration [[14]] were distributed.

This presentation led to a discussion of:

- use within STEP of SGML tagged text;
- referencing of STEP instance data from within an SGML document;
- management of “information products”;
- general use of and reference to other standards from within STEP.

It was agreed that WG10 would continue to track progress in the SGML/STEP area, particularly in the context of the proposed Technical Data Packs AP and any possible New Work Item Proposals that may arise in WG3/T14. If possible, a feasibility study of the integration of the SGML_string proposal into the STEP integrated resources needs to be carried out.

# 9. Joint meeting with WG3 on “Core Models”

At the request of members of WG3/T12 (AEC), a joint meeting of WG3 and WG10 was held to discuss the issue of “core models” and their place in the SC4 architecture. Jeff Wix presented an initial paper on the intended role of the Building and Construction Core Model (BCCM, Part 106) [[15]]. This identifies a new architectural acronym for STEP: the Application Reference Construct (ARC). These are the ARM-equivalent of AICs, i.e., the explicit identification of requirements shared across APs. The BCCM is intended to identify a “top-down” set of ARCs for re-use by building and construction APs. It was noted that ARCs are functionally equivalent to the “building blocks” of the MARITIME approach.

The distinction between ARCs and UOFs was discussed. The following distinguishing features of ARCs are identified:

- smaller in scope than UOFs;
- identified outside the context of a particular AP;
- shareable by definition, rather than by discovery.

Additional presentations were given by David Leal on work towards a core model for engineering analysis, and by Matthew West on the work in Shell and EPISTLE.

It was agreed that all these “core model” approaches show promise and relate directly to the top-down “interoperability by design” approach identified by WG10 (see section 3 above).

# 10. Agenda for the Kobe meeting

The following draft agenda was agreed for the Kobe meeting.

| | | |
|---|---|---|
| Saturday | all day | Plenary: focus on AP Interoperability |
| Monday | evening | available for liaison meetings |

| | | |
|---|---|---|
| Tuesday | am | WG10/P1 methods documentation |
| | pm | Joint meeting with WG2 |
| Wednesday | am | Joint meeting with WG2 (continued) |
| | pm | Joint meeting with WG8 |
| | evening | available for liaison meetings |
| Thursday | all day | Plenary: focus on SC4 architectures |
| | evening | available for liaison meetings |

# 11. References

[1] West, Matthew & Fowler, Julian. *The nature of industrial data: some architectural aspects and issues for SC4, version 0.5*. ISO TC184/SC4/WG10 N31, October 26, 1995.

[2] West, Matthew & Fowler, Julian. *The nature of industrial data: some architectural aspects and issues for SC4, version 0.6*. ISO TC184/SC4/WG10 N42, January 22, 1996.

[3] Fowler, Julian (ed). *Issues log for WG10 N31 and N42*. ISO TC184/SC4/WG10 N43, January 20, 1996.

[4] Freund, Kevin. *AP Interoperability (PDES, Inc. viewfoils)*. ISO TC184/SC4/WG10 N45

[5] Price, David. *The problem with product definition.* ISO TC184/SC4/WG10 N46, January 20, 1996.

[6] Holland, Martin. *Collaborative Use of Standards (ProSTEP viewfoils)*. ISO TC184/SC4/WG10 N47, June 27, 1995.

[7] Haenisch, Jochen & Lazo, Peter. *AP Development Guidelines for Shipbuilding*. ISO TC184/SC4/WG10 N52, January 21, 1996.

[8] Koch, Thomas & de Bruijn, Werner. *MARITIME: Application Protocol Modelling Framework for STEP*. ISO TC184/SC4/WG10 N53, October 15, 1993.

[9] *European Maritime STEP Association (viewfoils)*. ISO TC184/SC4/WG10 N54, January 21, 1996.

[10] McKay, Alison & Fowler, Julian (eds). *ISO 10303-13: Architecture and methodology reference manual*. ISO TC184/SC4/WG10 N40, December 13, 1995

[11] Fowler, Julian (ed). *ISO 10303 Architecture and Methodology Reference Manual -- Issues Log.* ISO TC184/SC4/WG10 N41, January 18, 1996

[12] Burkett, William. *Issues against Part 13 (N40).* ISO TC184/SC4/WG10 N48, January 20, 1996.

[13] West, Matthew. *ISO 10303-13 Comments*. ISO TC184/SC4/WG10 N55, December 21, 1995

[14] Tucker, Hugh (ed). *Product Documentation – Technical Requirements*. ISO TC184/SC4/WG3/T14 Standing Document H, November 1, 1995 (WG10 N59)

[15] Wix, Jeff. *Purpose of a Core Model*. ISO TC184/SC4/WG10 N57.